Material Safety Data Sheet

May be used to comply with
OSHA's Hazard Communication Standard.
29 CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
From Approved
OMB No.1218-0072

IDENTITY(As Used on Label and List)
Lithium Ion Rechargeable Battery **LGR18500P**

Note: Blank spaces are not permitted. If any item is not applicable. or no information is available,the space must be marked to indicate that.

Section I

Manufacturer's Name
TOSHIBA CORPORATION

Emergency Telephone Number
TOKYO 03-5479-3880

Address (Number,Street,City,State,and ZIP Code)
10-27 HIGASHI-SHINAGAWA 4-CHOME
SHINAGAWA-KU TOKYO 140-0002 JAPAN

Telephone Number for Information
TOKYO 03-5479-3880

Date Prepared
Feb. 23 , 2001

Signature of Preparer (optional)
S.Suzuki

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity. Common Name (s)) OSHA PEL ACGIH TLV Recommended %(optional) Other Limits

Chemicals of the Cell		CAS No.	Content (g/Cell)
Lithium Cobaltate	($LiCoO_2$)	12190-79-3	9.6
Graphitic Carbon	(C)	7440-44-0	4.2
Organic Electrolyte			
Organic Solvent	(Ethylene-carbonate	96-49-1)	3.9
	(Methyl-ethyl-carbonate	623-53-0)	
Lithium Salt	($LiPF_6$	21324-40-3)	0.6

*These chemicals of the cell are firmly sealed within metal case.

*The cell contains neither metallic lithium nor lithium alloy.

*Organic Solvents: Inflammable

*For Organic Electrolyte

Ingestion	: rat	LD$_{50}$	> 5000 mg/kg
Skin	: rabit	LD$_{50}$	> 5000 mg/kg
U.N.number	: 1993	(similitude)	
U.N.class	: 3.3	(similitude)	

Section III - Physical/Chemical Characteristics

Specific Gravity(H_2O=1)
$LiCoO_2$: 4.95 , Graphitic Carbon : 2.2

Melting point (degree C)
$LiCoO_2$: about 1130 degree C

Flash Point (degree C)
Organic Electrolyte Solution : 25 degree C

Appearance and Odor
$LiCoO_2$: black odorless powder
Organic Elctrolyte : colorless liquid , ester odor
Graphitic carbon : black odorless powder
*These chemicals of the cell are firmly sealed within metal case,so the cell is odorless.

Section IV - Fire and Explosion Hazard Data

Extinguishing Media
Water

Special Fire Fighting Procedures
In case of fire in an adjacent area, use water,CO_2,or dry chemical extinguisher.

Unusual Fire and Explosion Hazards
Incineration,Short-circuit or unusual high current charge may cause fire or rupture.

Section V - Reactivity Data

Stability:

Stable

Conditions to Avoid:

Short-circuit,heating and contacting water shall be avoided.

Incompatibility(Materials to Avoid):

Do not contact the water.

Hazardous Decomposition or Byproducts:

Combustion may produce CO gas,hydrocarbon,H_2,CO_2,LiF,HF,H_3PO_4,tetrafluoroetyene(TEE), vinylidene fluoride(VF_2),and hexafluoropropylene(HFP).

Hazardous Polymerization:

Will not occur.

Section VI - Health Hazard Data

Routes of Entry:

Inhalation? Yes Skin? Yes Ingestion? Yes

Health Hazards(Acute and Chronic):

These chemicals are contained in a sealed can. Risk of exposure only if the battery is mechanically or electrically abused. The most likely risk is acute exposure when gas release vent works. Organic Solvent has slight toxcity and irritates to skin and eyes. Lithium Salt is irritating to skin, eyes and mucous membranes. It should be avoided contacting of electrolyte with skin and eyes.

Carcinogenicity:

NTP? Not apply IARC Monographs? None OSHA Regulated? None

Signs and Symptoms of Exposure:

If electrolyte leaks,it absorbs humidity and generates irritant HF gradually.

Medical Conditions Generally Aggravated by Exposure:

An acute exposure will not generally aggravate any medical condittions.

Emergency and First Aid Procedures

Leaked electrolyte may irritate bronchial tubes and eyes. Wash out in abundant water immediately.

Section VII - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled

Avoid skin and eye contact or do inhalation of vapors. Wash out in abundant water immediately.

Waste Disposal Method

Dispose of according to appropriate local,state and Federal waste regulations.

Precautions to Be Taken in Handling and Storing

Keep the batteries in a dark and cool place. Short-circuit and heating the battery shall be avoided.

Other Precautions

Incineration and disassemble shall be avoided.

Section VIII - Control Measures

Respiratory Protection(Specify Type):

Not necessary under condition of normal use.

Ventilation:

Not necessary under condition of normal use.

Protective Gloves:

Not necessary under condition of normal use.

Eye Protection:

Not necessary under condition of normal use.

Other Protective Clothing of Equipment:

Not necessary under condition of normal use.

Work/Hygienic Practices:

Not necessary under condition of normal use.